

- 15 -

CLAIMS

1. Recessed hinge to make a temple (A, A¹, A², A³, A⁴) elastic with respect to a respective endpiece (3, 3¹, 3², 3³, 3⁴) of a frame (F) of a pair of spectacles, said hinge comprising at least a male hinging element (100, 100¹, 100², 100³, 100⁴) pivoted to at least a corresponding female element (200, 200¹, 200², 200³, 200⁴), said male hinging element (100, 100¹, 100², 100³, 100⁴) comprising at least a tie-rod (12, 12¹, 12², 12³, 12⁴) able to slide with respect to said temple (A, A¹, A², A³, A⁴), a bushing (2, 2², 2³, 2⁴, 73) arranged inside said temple (A, A¹, A², A³, A⁴) and axially associated with said tie-rod (12, 12¹, 12², 12³, 12⁴), and an elastic means (5, 5¹, 5², 5³, 5⁴) loaded between said bushing (2, 2², 2³, 2⁴, 73) and an abutment element (6, 6¹, 6², 6³, 6⁴) attached to said tie-rod (12, 12¹, 12², 12³, 12⁴), characterized in that said female element (200, 200¹, 200², 200³, 200⁴) comprises a seating (30, 30¹, 30², 30³, 30⁴) made in said endpiece (3, 3¹, 3², 3³, 3⁴) by removing material, and in that said male hinging element (100, 100¹, 100², 100³, 100⁴) comprises a hook element (1, 1¹, 14, 60), solid with said tie-rod (12, 12¹, 12², 12³, 12⁴), housed in said seating (30, 30¹, 30², 30³, 30⁴) and able to articulate on a pin (4, 4¹, 4², 14) arranged inside said seating (30, 30¹, 30², 30³, 30⁴).
2. Recessed hinge as in claim 1, characterized in that said male hinging element (100¹) comprises two tie-rods (12¹) arranged co-planar and substantially parallel with each other, and able to be pivoted with the relative hook elements (1¹) inside relative seatings (30¹).
3. Recessed hinge as in claim 1, characterized in that said male hinging element (100², 100⁴) comprises two tie-rods (12², 12⁴) arranged co-planar and substantially parallel with each other, and able to be pivoted with the

- 16 -

relative hook elements (14, 60) inside a single common seating (30², 30⁴).

4. Recessed hinge as in claim 2 or 3, characterized in that it comprises a single pin (4¹, 4², 14) to pivot said
5 tie-rods (12¹, 12², 12⁴).

5. Recessed hinge as in any claim hereinbefore, characterized in that said seating (30, 30¹, 30², 30³, 30⁴) comprises at least two lateral fins (31, 31¹) provided with
10 respective through holes (32, 32¹), with which a central hole (11, 11¹) is axially aligned, made through transverse to said hook element (1, 1¹, 14, 60), said through holes (32, 32¹) being able to allow the insertion of said pin (4, 4¹, 4², 14) through said fins (31, 31¹) and said hook element (1, 1¹, 14, 60).

15 6. Recessed hinge as in claim 5, characterized in that at least one of said through holes (32, 32¹) is threaded in order to allow said pin (4, 4¹, 4², 14) to be screwed therein.

7. Recessed hinge as in claim 5 or 6, characterized in
20 that said seating (30, 30¹, 30², 30³, 30⁴) comprises at least a curved segment having a radius of curvature (R) centered in said through holes (32, 32¹), equal to or a little more than a radius of curvature (r) of said hook element (1, 1¹), centered in said central hole (11, 11¹).

25 8. Recessed hinge as in claim 7, characterized in that said through holes (32, 32¹) have a center distant from the leading edge and from the lower edge of said endpiece (3, 3¹) of a distance substantially equal to said radius of curvature (R).

30 9. Recessed hinge as in any claim hereinbefore, characterized in that said bushing (2, 2², 2³, 2⁴) is able to be inserted inside a mating hole (71, 71², 71³, 71⁴) made at one end (7, 7², 7³, 7⁴) of said temple (A, A², A³, A⁴),

- 17 -

and comprises a slightly undulating outer surface (20), a lead-in (21) shaped like a truncated cone, and a through hole (22), able to house said tie-rod (12, 12², 12³, 12⁴) with a slight play.

- 5 10. Recessed hinge as in any claim hereinbefore, characterized in that said bushing is made at one end (7¹) of said temple (A¹) and comprises a through hole (73) made coaxial and having a reduced diameter with respect to a hole (71¹).
- 10 11. Recessed hinge as in claim 10, characterized in that said hole (71¹) is open on one side and is able to be selectively closed by a plate (75).
12. Recessed hinge as in claim 3, characterized in that said two tie-rods (12²) are connected to each other inside
- 15 said seating (30²) by a coil-type connection element (60), arranged around a pin (4²).
13. Recessed hinge as in claim 3 or 12, characterized in that only one of said tie-rods (12², 12⁴) is associated with a relative elastic means (5², 5⁴).
- 20 14. Recessed hinge as in claim 1, characterized in that said male hinging element (100³) and the female element (200³) are arranged and made inside corresponding containing boxes (50, 51) associated respectively with said temple (A³) and with the endpiece (3³).
- 25 15. Recessed hinge as in claim 3, characterized in that said two tie-rods (12⁴) are connected to each other by a transverse element (14) orthogonal thereto, functioning as a pin, and in that said female element (200⁴) comprises a hook element (40) open at one side and partly drowned
- 30 inside said seating (30⁴), and able to cooperate with said transverse element (14) in order to determine the pivoting of said male hinging element (100⁴) and said female element (200⁴).

- 18 -

16. Recessed hinge as in any claim hereinbefore, characterized in that said hook element (1, 1¹, 14, 60) is able to be inserted with play into said seating (30, 30¹, 30², 30³, 30⁴) in order to allow a pre-determined vertical movement of the temples (A, A¹, A², A³, A⁴), and also a possible pantoscopic adjustment, by means of a prior conformation of said endpiece (3, 3¹, 3², 3³, 3⁴).